

4.3 AIR QUALITY

Information provided in this section is based on an air quality report prepared for the project by Illingworth & Rodkin, Inc., August 2008, which can be found in **Appendix B** of this Final EIR. The primary focus of the air quality study was to evaluate the effects of future project-related emissions on regional and local air quality as well as existing sources of air pollution near the project that could affect “sensitive receptors,” specifically new residents in the project area.

On June 2, 2010, the Air District updated the BAAQMD CEQA Guidelines in support of the upcoming new Clean Air Plan. The CEQA Guidelines Update revised significance thresholds, assessment methodologies, and mitigation strategies for criteria pollutants, air toxics, odors, and greenhouse gas emissions. These standards have been utilized in preparing this ~~Recirculated Draft~~Final EIR.

For the purposes of this analysis, Scenario 1 (the construction of up to 500 single-family homes) was used because it would generate greater air pollutant emissions than Scenario 2 (the construction of up to 448 single-family homes and 72 apartments).

Incorporation of the project applicant’s new mitigation measure, eliminating the borrow of 300,000 cubic yards of soil southwest of Ardenwood Boulevard, as described in **Chapter 3, Project Description**, has resulted in the following changes to this section:

- Text in reference to the import of soil has been modified from 150,000 cubic yards to 300,000 cubic yards.
- Text in reference to onsite truck hauling, associated with the borrow-related construction impacts, has been removed.

These changes are shown throughout this section in strikethrough/underline format.

The air quality modeling in the Recirculated Draft EIR assumed an average truck haul roundtrip length of 10 miles for the import of 300,000 cubic yards of soil to the project site. The applicant’s new mitigation measure includes the import of 300,000 cubic yards of soil from an offsite location. At this time, the location from where the soil would be imported is unknown; however it is assumed that soil would be imported from a site located within a 10 mile roundtrip distance from the project area.

4.3.1 EXISTING CONDITIONS

Physical Setting

The Fremont climate is characterized by warm dry summers and cool moist winters. The proximity of the San Francisco Bay and Pacific Ocean has a moderating influence on the climate. Moist air is often condensed into fog or stratus clouds by the cool Pacific Ocean. This condition is typical of the warmer months of the year from roughly May through October. When a strong high pressure system develops over the region in late spring and summer, the resulting warm conditions and a weak or non-existent marine inversion create clear skies and relatively stable atmospheric conditions.

In the winter, high pressure over the eastern Pacific weakens and generally shifts south, allowing transitional weather systems associated with the polar jet stream to affect northern California on a regular basis. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. Fremont receives about 20 inches of precipitation, with about 90 percent of this rainfall falling from November through April. Fog and haze are also common in Fremont during winter, when high-pressure systems influence the weather.

During the fall and winter months, the high pressure condition over the interior regions of the western United States (known as the Great Basin High) can produce extended periods of light winds and low-level temperature inversions. This condition is frequently characterized by poor atmospheric mixing resulting in degraded regional air quality. Ozone (O₃) pollution typically occurs when this condition occurs during the warmer months of the year.

Criteria Air Pollutants and Effects

Air quality studies generally focus on five pollutants that are most commonly measured and regulated: carbon monoxide (CO), ground level O₃, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and suspended particulate matter, specifically, PM₁₀ and PM_{2.5}, as listed in **Table 4.3-1, Major Criteria Pollutants**. In Alameda County, O₃ and particulate matter are the pollutants of greatest concern, as measured air pollution levels show high concentrations of these pollutants at times.

Table 4.3-1 Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Carbon Monoxide (CO)	Non-reactive, colorless and odorless gas that dissipates relatively quickly; ambient CO concentrations generally located near vehicular traffic Highest CO concentrations measured in the Bay Area are recorded during the winter	Interferes with the transfer of oxygen to the brain; causes dizziness and fatigue; can impair central nervous system functions	Automobile exhaust, residential wood burning in fireplaces and woodstoves
Ozone (O ₃)	Colorless toxic gas and the chief component of urban smog Present in relatively high concentrations within portions of the Bay Area; highest concentrations occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies	Irritates eyes; impairs respiratory function; interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen	Although not directly emitted from a particular source, it forms in the atmosphere through a chemical reaction between reactive organic gas (ROG) and nitrogen oxides (NO _x) under sunlight; ROG and NO _x are primarily emitted from automobiles, and industrial sources
Nitrogen Dioxide (NO _x)	Reddish-brown gas that irritates the lungs; NO and NO ₂ are collectively referred to as NO _x and are major contributors to O ₃ formation; NO ₂ also contributes to the formation of PM ₁₀ Levels of NO ₂ in the Bay Area are relatively low	Irritates lungs; can cause breathing difficulties at high concentrations	Like O ₃ , NO ₂ is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen; NO is primarily emitted from automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants
Sulfur Oxides (SO _x)	Primarily SO ₂ , sulfur oxides are colorless gases with a pungent, irritating odor Due to the lack of sources, levels of SO ₂ in the Bay Area are relatively low	Increases risk of acute and chronic respiratory disease; can cause diminished ventilator function in children	Product of high-sulfur fuel combustion from coal and oil used in power stations, industries, and for domestic heating; industrial chemical manufacturing; diesel vehicle exhaust
Suspended Particulate Matter (PM _{2.5} / PM ₁₀)	Very small liquid and solid particles suspended in the air, which can include smoke, soot, dust, salts, acids, and metals; can produce haze and reduce regional visibility PM ₁₀ : Particulate matter less than 10 microns in diameter, about one-seventh the thickness of a human hair PM _{2.5} : Particulate matter 2.5 microns or less in diameter	Damages respiratory tract; increases the number and severity of asthma attacks; causes or aggravates bronchitis and other lung diseases; reduces the body's ability to fight infections	Motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; atmospheric chemical and photochemical reactions

Source: Illingworth and Rodkin, 2008.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality, usually because they cause cancer. TACs include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source, but because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air, and is estimated to represent about two-thirds of the cancer risk from TACs based on the statewide average. Diesel exhaust is a complex mixture of gases, vapors, and fine particles, which makes the evaluation of its health effects a complex scientific issue. The California Air Resources Board (CARB) previously identified some of the chemicals in diesel exhaust (e.g., benzene, formaldehyde) as TACs; they are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants program. To reduce diesel particulates, California has adopted a comprehensive diesel risk-reduction program. In 2006, the United States Environmental Protection Agency (U.S. EPA) also enacted low-sulfur diesel fuel standards for delivery and transport trucks that will reduce diesel particulate matter substantially.

Smoke from residential wood combustion can also be a source of TACs. Wood smoke is typically emitted during the winter months when dispersion conditions are poor. Localized concentrations of TACs can result when cold stagnant air traps smoke near the ground and there is no wind. The pollution can persist for many hours, especially in sheltered valleys during winter. TACs, such as wood smoke, also contain a significant amount of PM₁₀ and PM_{2.5}. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

Ambient Air Quality Conditions

Air quality is described by the concentration of various pollutants in the atmosphere. The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, and the topography of the air basin. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). State and federal air quality standards have been set up to define the allowable pollutant concentrations in a given air basin. These standards are designed to ensure that public health and welfare are

protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population. Both state and federal ambient air quality standards are presented in **Table 4.3-2, California and National Ambient Air Quality Standards**.

Table 4.3-2 California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards ^a	
			Primary ^b	Secondary ^c
Ozone	8-hour	0.070 ppm (154 µg/m ³)	0.075 ppm (165 µg/m ³)	—
	1-hour	0.09 ppm (180 µg/m ³)	—	—
Carbon monoxide	8-hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	—
	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	—
Nitrogen dioxide	Annual	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary
	1-hour	0.25 ppm	0.100 ppm (189 µg/m ³)	—
Sulfur Dioxide	Annual	—	0.03 ppm (80 µg/m ³)	—
	24-hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	—
	3-hour	—	—	0.5 ppm (1,300 µg/m ³)
	1-hour	0.25 ppm (655 µg/m ³)	—	—
PM ₁₀	Annual	20 µg/m ³	—	—
	24-hour	50 µg/m ³	150 µg/m ³	Same as primary
PM _{2.5}	Annual	12 µg/m ³	15 µg/m ³	—
	24-hour	—	35 µg/m ³	—
Lead	Calendar quarter	—	1.5 µg/m ³	Same as primary
	30-day average	1.5 µg/m ³	—	—

Notes:

- a Standards, other than for ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.
- b **Primary Standards:** The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the U.S. EPA.
- c **Secondary Standards:** The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

ppm= parts per million

µg/m³ = micrograms per cubic meter

Source: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, <http://www.epa.gov/air/criteria.html>

Air Monitoring Data

The Bay Area Air Quality Management District (BAAQMD) monitors air quality conditions at more than 30 locations throughout the Bay Area. The closest monitoring station to the project area is in Fremont, approximately 6 miles east of the project area.

Attainment Status

Areas that do not violate ambient air quality standards are considered to be in attainment status for each regulated air pollutant. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet state or federal ambient air quality standards for ground level O₃ and state standards for PM₁₀ and PM_{2.5}. Under the Clean Air Act (CAA), the BAAQMD is currently classified as marginally nonattainment for the 1997 8-hour O₃ standard.

In 2008, U.S. EPA adopted a more stringent 8-hour ozone NAAQS. In 2009, the U.S. EPA, under a new administration, began the process of new rulemaking action to reconsider the 2008 ozone NAAQS upon reconsideration of the scientific advisory committee recommendations used to establish the 2008 NAAQS. In January 2010, U.S. EPA announced that upon review of scientific data they were proposing to further lower the ozone NAAQS. U.S. EPA was poised to promulgate nonattainment designations under the 2008 ozone NAAQS in December 2009, which would have included the Bay Area. These nonattainment designations would have become effective by March 12, 2010. However, on January 19, 2010, U.S. EPA announced delay of the final designations for the 2008 NAAQS until March 12, 2011, to allow adequate time for reconsideration and possible revision of the 2008 NAAQS. The range of standards under consideration would be a significant change, which would undoubtedly result in a nonattainment designation for the Bay Area and much of California. Final standards will be issued by August 31, 2010. Designations of nonattainment areas will become effective one year later in 2011.

The U.S. EPA also recently designated the Bay Area Air Basin as nonattainment for the 2006 24-hour PM_{2.5} standard, as recent monitoring data indicate levels slightly above the standard (from measurements conducted in the cities of San Jose and Vallejo). Most PM_{2.5} nonattainment areas would have until 2015 to attain the standards with some extensions to 2020 if necessary.

The Bay Area has met the CO standards for over a decade and is classified attainment maintenance by the U.S. EPA. The U.S. EPA grades the region unclassified for all other air pollutants, which include PM₁₀.

At the state level, the region is considered serious nonattainment for ground level O₃ and nonattainment for PM₁₀. The region is required to adopt plans on a triennial basis that show progress towards meeting the state O₃ standard. The area is considered attainment or unclassified under state standards for all other pollutants.

Table 4.3-3, Annual Number of Days Exceeding Ambient Air Quality Standards shows the number of days per year that air pollutant levels exceeded state or national standards in Fremont and the Bay Area monitoring network.

Table 4.3-3 Annual Number of Days Exceeding Ambient Air Quality Standards

Pollutant	Standards	Monitoring Station	Days Exceeding Standard				
			2004	2005	2006	2007	2008
Ozone (O ₃)	NAAQS 1-hr	Fremont	0	X	X	X	X
		BAY AREA	0	X	X	X	X
	NAAQS 8-hr	Fremont	0	0	0	0	1
		BAY AREA	0	1	12	1	12
	CAAQS 1-hr	Fremont	0	1	4	0	1
		BAY AREA	7	9	18	4	9
	CAAQS 8-hr	Fremont	--	1	3	0	3
		BAY AREA	--	9	22	9	20
	NAAQS 24-hr	Fremont	0	0	0	0	--
		BAY AREA	0	0	0	0	0
Fine Particulate Matter (PM ₁₀)	CAAQS 24-hr	Fremont	0	1	2	1	--
		BAY AREA	6	6	15	4	5
Fine Particulate Matter (PM _{2.5})	NAAQS 24-hr*	Fremont	0	0	2	2	0
		BAY AREA	1	0	10	14	12
All Other (CO, NO ₂ , Lead, SO ₂)	All Other	Fremont	0	0	0	0	0
		BAY AREA	0	0	0	0	0

*Based on standard of 65 µg/m³ that was in place until September 21, 2006, then 35 µg/m³ standard in 2006.

X = Standard revoked in 2004.

NA = data not available.

Source: Illingworth and Rodkin, 2008, updated 2010.

Sensitive Receptors

Sensitive receptors include individuals and locations with individuals who are particularly susceptible to the adverse effects of air pollution. CARB has identified sensitive receptors to include children under 14, persons over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that contain a high concentration of these sensitive population groups include residential neighborhoods, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. Both state and national ambient air quality standards were developed with the intent to protect sensitive receptors from the adverse impacts of air pollution.

Sensitive receptors within close proximity to the project area include residents in the neighborhoods to the northwest, northeast and southwest of the project area and users of the multi-use Alameda Creek trail along the Alameda Creek flood control channel to the northwest of the project area.

4.3.2 REGULATORY SETTING

United States Environmental Protection Agency

The U.S. EPA is responsible for enforcing the Federal CAA. The U.S. EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by CARB.

Project Consistency

The project would be required to comply with federal regulations and standards set by the U.S. EPA. For a discussion of project consistency with the NAAQS, refer to the policy consistency discussion below, under the heading “National and State Ambient Air Quality Standards.”

California Air Resources Board

CARB, part of the California Environmental Protection Agency, is responsible for meeting the state requirements of the Federal CAA, administering the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act requires all air districts in the state to endeavor to achieve

and maintain CAAQS. CARB regulates mobile air pollution sources, such as motor vehicles, and is responsible for setting emission standards for vehicles sold in California for other emission sources, such as consumer products, and for certain off-road equipment. CARB has established passenger vehicle fuel specifications and oversees the functions of local air pollution control districts and air quality management districts, which in turn prepare air quality attainment plans at the regional level. CARB also conducts or supports research into the effects of air pollution on the public and develops innovative approaches to reduce air pollutant emissions.

Project Consistency

The project would be required to comply with state regulations pertaining to emissions of air pollutant during construction and operation of the project. For a discussion of project consistency with the CAAQS, refer to the policy consistency discussion below, under the heading “National and State Ambient Air Quality Standards.”

National and State Ambient Air Quality Standards

As required by the Federal CAA, NAAQS have been established for six major air pollutants: CO, NO_x, O₃, PM₁₀, PM_{2.5}, sulfur oxides, and lead. State ambient air quality standards (CAAQS) are generally more stringent than the corresponding federal standards and incorporate additional standards for pollutants such as sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. Both state and federal standards are summarized in **Table 4.3-2, California and National Ambient Air Quality Standards**. The “primary” standards have been established to protect the public health. The “secondary” standards are intended to protect the nation’s welfare and account for adverse air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare.

The BAAQMD is primarily responsible for assuring that the national and state ambient air quality standards are attained and maintained in the Bay Area. BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities. BAAQMD has jurisdiction over much of the nine-county Bay Area counties, including Alameda County, in which Fremont is located.

Air Quality Plans

The BAAQMD develops air quality plans addressing the California Clean Air Act and updates them approximately every three years toward meeting the CAAQS. In early 2006, BAAQMD adopted the *Bay Area 2005 Ozone Strategy*, which includes a comprehensive strategy to reduce O₃ precursor emissions from stationary, area, and mobile sources.¹ This plan implements transportation control measures to address the 1-hour NAAQS for O₃ and achieve region-wide reductions in O₃ precursor pollutants. The clean air planning efforts for O₃ will also reduce PM₁₀ and PM_{2.5}, as a substantial amount of particulate matter comes from combustion emissions such as vehicle exhaust.

The *Bay Area 2005 Ozone Strategy* proposes expanded implementation of Transportation Control Measures (TCMs) and programs such as Spare the Air, a public outreach program designed to educate the public about air pollution in the Bay Area and promote individual behavior changes that improve air quality. Some of these measures or programs rely on local governments for implementation.

BAAQMD is currently in the process of adopting the *Bay Area 2010 Clean Air Plan* that will:

- Update the current Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone;
- Provide a control strategy to reduce ozone, particulate matter (PM), TACs, and greenhouse gases in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission control measures to be adopted or implemented in the 2010-2012 timeframe.

There is not an anticipated date of adoption for this plan.

A Carbon Monoxide Maintenance Plan was also approved in 1998 by the U.S. EPA, which demonstrated how NAAQS for CO standard would be maintained.

¹ Bay Area Air Quality Management District. Bay Area 2005 Ozone Strategy. Available at: <http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/2005%20Ozone%20Strategy/adoptedfinal_vol1.ashx>.

The BAAQMD adopts and enforces rules to reduce particulate matter emissions and develops public outreach programs to educate the public to reduce PM₁₀ and PM_{2.5} emissions (e.g., Spare the Air Program). In 2008, the BAAQMD adopted Regulation 6, Rule 3: Wood-Burning Devices, which is intended to reduce emissions that come from residential wood burning. This new rule restricts wood burning when air quality is unhealthy and a wintertime Spare the Air Advisory is issued. The rule also requires that only cleaner burning EPA-certified stoves and inserts be installed in new construction or remodels, including natural gas fireplaces. The rule applies to new woodstove and fireplace inserts. The regulation also places limits on excessive smoke, prohibits the burning of garbage and other harmful materials, and also requires the labeling of firewood and solid fuels sold within the Bay Area.

On June 2, 2010, the Air District updated the BAAQMD CEQA Guidelines in support of the upcoming new Clean Air Plan. The CEQA Guidelines Update revised significance thresholds, assessment methodologies, and mitigation strategies for criteria pollutants, air toxics, odors, and greenhouse gas emissions. These standards have been utilized in preparing this ~~Recirculated Draft~~ Final EIR.

Project Consistency

The project would be required to comply with BAAQMD standards and regulations regarding air pollutant emissions during project construction and operation. A discussion of project consistency with the BAAQMD Air Quality Plans and regulations is provided in Section **4.3.3, Impacts and Mitigation Measures**, under **Impact AQ-1**.

Fremont General Plan

Chapter 9 of the 1991 Fremont General Plan is the Natural Resources Chapter. City policies related to Air Quality are located under Goal 12: Air Quality Meeting State Standards. Policies relevant to the project are listed below.

Policy NR 12.1.2: The development of land uses considered to be sensitive to poor air quality shall be discouraged adjacent to potential air quality problems (hot spots).

Policy NR 12.1.3: Monitor and review air quality relative to State standards.

Implementation 2: Review proposed projects for their potential to affect air quality conditions during the environmental impact process.

Policy NR 12.1.7: Reduce particulate emissions.

Implementation 1: Reduce emissions from construction of roads and buildings through enforcement of construction practices that reduce dust and other particulate emissions.

Project Consistency

This Section of the EIR contains a quantitative analysis of the air quality impacts of the project, consistent with Implementation 2 of Policy NR 12.1.3. Standard mitigation measures required by the BAAQMD are provided in **Section 4.3.3, Impacts and Mitigation Measures**; consistent with Implementation 1 of Policy NR 12.1.7, **Mitigation Measure AQ-4a** addresses reducing particulate emissions through implementing dust control measures during construction. The project incorporates a number of green building techniques and the proposed buildings are required to meet energy efficiency standards from Title 24 and the California Building Code, consistent with Policy NR 12.1.8. Please refer to **Chapter 3, Project Description** for more information on green building techniques that are proposed as part of the project. Furthermore, **Mitigation Measure AQ-1b** requires implementation of additional measures that further reduce emissions and improve energy efficiency.

Fremont Ordinance 2480

The Fremont City Council adopted Ordinance 2480 in 2002 to reduce residential wood smoke. The Ordinance mandates that any new wood heater or fireplace insert be certified by the U.S. EPA, or be a pellet-fueled wood heater in new housing construction or additions, or that such a heater or insert be installed in place of existing wood-burning fireplaces in remodels. Historic buildings and gas-only fireplaces are not affected by the ordinance.

Project Consistency

As required, all homes constructed as part of the project would be built in accordance with Fremont's Ordinance regarding residential wood burning heaters and fireplace inserts.

4.3.3 IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA Guidelines identifies environmental issues to be considered when determining whether a project could have significant effects on the environment. The BAAQMD CEQA Air Quality Guidelines, adopted June 2, 2010, were used to evaluate the environmental air quality impacts of the project². The project would have a significant impact on air quality if it would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under any applicable federal or state ambient air quality standards (including releasing emissions which exceed quantitative thresholds for O₃ precursors). This is judged by comparing direct and indirect project emissions to BAAQMD significance thresholds of 54 pounds per day for ROG, NO_x, or PM_{2.5} and 82 pounds per day for PM₁₀ (BAAQMD also provides significance criteria for greenhouse gas emissions. These emissions are considered in **Section 4.8 Greenhouse Gas Emissions**);
- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantive number of people; or
- Result in a community risk due to an increased cancer risk of greater than 10 people in a million, an increased non-cancer risk of greater than 1.0 Hazard Index, or increased PM_{2.5} of greater than 0.3 micrograms per cubic meter (µg/m³) if the project is within 1,000 feet from a source.

Issues Not Discussed Further

Community Risk

The BAAQMD CEQA Air Quality Guidelines describe the potential for significant community risk impacts to occur when sensitive receptors are located near sources of TAC and/or PM_{2.5} emissions. Common sources include high-volume roadways such as freeways, stationary combustions sources permitted by BAAQMD, and

² BAAQMD. 2010. California Environmental Quality Act Air Quality Guidelines. May 1999.

gasoline stations. BAAQMD recommends that these types of sources within 1,000 feet of a project with sensitive receptors be assessed to evaluate potential impacts. These types of TAC or PM_{2.5} emission sources have not been identified within 1,000 feet of the site. Therefore, this issue is not discussed further in this ~~Recirculated Draft~~Final EIR.

Project Impacts

Impact AQ-1: Project development of new residential uses and associated traffic trips, would result in a net increase of Reactive Organic Gases (ROG), a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. (Significant)

The Bay Area is considered a non-attainment area for ground-level O₃ under both the Federal CAA and the California CAA. The area is also considered non-attainment for PM₁₀ and PM_{2.5} under the California CAA. As part of an effort to attain and maintain ambient air quality standards for O₃ and PM₁₀, and PM_{2.5}, BAAQMD has established thresholds of significance for O₃ precursor pollutants (reactive organic gases and nitrogen oxides) and particulate matter (PM₁₀ and PM_{2.5}).

The project development would increase the volume of traffic in the project area, which would increase air pollutant emissions. Using the URBEMIS2007 model,³ annual project emissions were calculated, combining predicted daily traffic activity generated by the land use types with emission factors from the state's mobile emission factor model. Using a conservative estimate and consistent with the traffic impact report, the project was assumed to be fully constructed by 2015. (Note that air quality modeling typically uses the earliest possible operational year as part of a credible worst-case analysis, since emissions will decrease in future years due to continuing implementation of efforts to reduce air pollution.)

Except where noted below, the URBEMIS2007 modeling included model default assumptions for the San Francisco Bay Area. Model inputs were the size and description of the project along with forecasted trip generation rates (see **Section 4.17, Transportation and Circulation** for trip generation rates). Changes to the model default values are as follows:

- First full operational year was assumed to be 2015;
- Percent of residential units using natural gas is set to 100 percent;

³ The URBEMIS2007 model, Version 9.2.4, is distributed by the Rimpo Associates (www.urbemis.com) and is recommended for us by the BAAQMD.

- Hearth fuel combustion percentages were changed to reflect new BAAQMD Regulation 6, Rule 3 that only allows EPA-certified wood burning devices or natural gas fireplaces in newly constructed homes;
- Natural gas usage rates for single family homes were updated to reflect recent California Energy Commission data⁴; and
- The silt loading for paved road dust emissions was changed to 0.035 grams per square meter to reflect urban connector and arterial road conditions.

Daily emissions predicted for the project under Scenario 1 are reported in **Table 4.3-4, Daily Project (Scenario 1) Emissions in Pounds Per Day – Project Operation**. The URBEMIS2007 model output files are included in **Appendix C**.

Table 4.3-4 Daily Project (Scenario 1) Emissions in Pounds Per Day - Project Operation

Scenario	Modeled Daily Emissions in Pounds Per Day (lbs/day)			
	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO _x)	Respirable Particulates (PM ₁₀)	Fine Particulates (PM _{2.5})
Project – Area Sources	34	7	0	0
Project – Operational Sources	28	36	39	8
Project – Total	62	43	39	8
<i>BAAQMD Significance Thresholds</i>	<i>54</i>	<i>54</i>	<i>82</i>	<i>54</i>
<i>Impact</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source: Illingworth and Rodkin, 2010.

The model also includes stationary predicted source emissions associated with the project (e.g., generators, building materials), which are minor compared to emissions associated with traffic. Residential projects are a source of ROG emissions as residences typically contain consumer products, solvents, and paints that emit air pollutants. These emissions are predicted by URBEMIS2007 based on a state default value. This state default value in URBEMIS2007 does not, however, consider state regulations regarding ROG emissions from such consumer products and therefore provides a higher, and thus more conservative, estimate of ROG emissions that would typically occur as a result of project operation.

⁴ KEMA-XENERGY, Itron and RoperASW. 2004. California Statewide Residential Appliance Saturation Study – Volume 2, Study Results. Prepared for the California Energy Commission.

As shown in **Table 4.3-4**, the combination of new travel and new consumer product use by project residents would result in emissions of ROG that exceed BAAQMD significance thresholds, and therefore would constitute a significant impact. As described in ~~Section~~ **Chapter 3, Project Description**, the construction of the residential homes by the project proponent(s) would incorporate regional green building practices per the Alameda County “Build it Green” checklist, and the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Certification program, or recent regulations from Alameda County, Fremont and the U.S. Green Building Council. The project would meet a minimum of 100 points on the County Checklist and also apply for verification through the Green Point Rater program. The benefits of these measures have not been included in the Air Quality emissions analysis of **Table 4.3-4**.

The proposed development agreement would require all residential buildings to be constructed to a minimum of 100 points per the GreenPoint Checklist or of an acceptable equivalent as deemed acceptable by the City of Fremont. The project would also apply for verification through the Green Point Rater program. In addition to these green building practices, all single-family homes would be pre-wired and pre-plumbed and structurally designed for tankless water heaters and solar (photovoltaic) panels. Home buyers would be given the opportunity to have solar panels installed during construction.

Other green building features that would be incorporated as part of the project are listed below.

- Project landscaping would include water-efficient native and adaptive plants in combination with high-efficiency irrigation equipment.
- Recycled content would be included in project building materials, including the use of pre-consumer fly-ash⁵ in the concrete for project walkways, driveways, roadways, and non-plant landscape elements.
- To protect regional and indoor air quality, interior paints, carpets, adhesives, sealants, and coatings selected for the project would have a low concentration of volatile organic chemicals (VOCs).
- The heating, ventilation, and air conditions (HVAC) systems within each single family home would use environmentally responsible refrigerants (i.e. non CFC-based refrigerants).⁶

⁵ Fly ash is a residue generated during the combustion of coal and can be recycled, specifically for the use of supplementing concrete production.

- Indoor ventilation systems in each home would include high-efficiency systems to provide enhanced indoor air quality as potential pollutants would be ventilated through the building at a faster rate.
- The project would install high efficiency restroom fixtures including low-flow or dual flush toilets to reduce potable water use.
- The project would incorporate renewable energy systems, such as pre-plumbing for tankless hot water heating and the installation of photovoltaic panels.
- Wood from sustainably harvested forests (as certified by the Forest Stewardship Council) would be used in wood materials for the single family homes, including flooring, cabinets, trim, shelving, doors, and countertops.
- The project would install water and energy efficient appliances and lighting fixtures, including EnergyStar dishwashing and refrigeration equipment.
- The project includes pedestrian links throughout the project that specifically connect residential neighborhoods to bus stops;
- Trails will provide links to nearby regional trails, including the Alameda Creek Trail and Bay Trail.

Additional mitigation measures to minimize ROG emission are included in **Mitigation Measure AQ-1a** and **Mitigation Measure AQ-1b** described below.

Mitigation Measure AQ-1a: Incorporate Measures to Reduce Air Pollutant Emissions.

Most of the recommended mitigation measures that reduce ROG emissions have already been incorporated into the project. However, to reduce ROG emissions further, the project proponent(s) shall incorporate the following additional mitigation measures into the project:

- Landscape plans to include new trees that would shade buildings and walkways in summer to reduce the cooling loads on buildings;
- New buildings constructed as part of the project exceed state building code energy efficiency standards by at least 15 percent over 2008 requirements;
~~and~~
- Provide outdoor electrical outlets on the exterior of all buildings to encourage use of electric-powered landscape equipment;

⁶ CFC-based (chlorofluorocarbon) refrigerants contain molecules that are associated with high global warming potential (as measured in CO₂e) and with a high ozone depletion factor.

- Require installation of energy-efficient ceiling/whole-house fans; and
- Require light-colored pavement and roofs, with non-glare materials and colors or a combination of measures to achieve the same additional energy savings.

Mitigation Measure AQ-1b: Incorporate green building design and construction measures pursuant to the Alameda County Build It Green Program.

Prior to the issuance of building permits, Fremont shall confirm that the measures proposed as part of the project, pursuant to the project's involvement in the Alameda County Build It Green program for single family homes, have been incorporated into the final project design and construction plans for the development of single family homes in the project area. The measures listed below will particularly reduce ROG emissions:

- Recycled content shall be included in project building materials, including the use of pre-consumer fly-ash⁷ in the concrete for project walkways, driveways, roadways, and non-plant landscape elements.
- The heating, ventilation, and air conditions (HVAC) systems within each single family home shall use environmentally responsible refrigerants (i.e., non CFC-based refrigerants).⁸
- Indoor ventilation systems in each home shall include high-efficiency systems to provide enhanced indoor air quality as potential pollutants would be ventilated through the building at a faster rate.
- Wood from sustainably harvested forests (as certified by the Forest Stewardship Council) shall be used in wood materials for the single family homes, including flooring, cabinets, trim, shelving, doors, and countertops.

Significance after Mitigation: Significant and Unavoidable

As shown in **Table 4.3-5, Daily Project Emissions in Pounds per Day** below, while specific measures proposed as part of the project and those included in **Mitigation Measure AQ-1a** and **Mitigation Measure AQ-1b**, including the use of only low-emission and low VOC paints, carpets, sealants, and adhesives, would reduce ROG emissions associated with project development to 60 pounds per

⁷ Fly ash is a residue generated during the combustion of coal and can be recycled, specifically for the use of supplementing concrete production.

⁸ CFC-based (chlorofluorocarbon) refrigerants contain molecules that are associated with high global warming potential (as measured in CO₂e) and with a high ozone depletion factor.

day, ROG emissions would continue to exceed the BAAQMD significant threshold of 54 pounds per day. As such, this impact would be significant and unavoidable.

Table 4.3-5 Daily Project Emissions in Pounds Per Day

Scenario	Modeled Daily Emissions in Pounds Per Day (lbs/day)
	Reactive Organic Gases (ROG)
Total Project Emissions	62
Total Project Emissions after Mitigation Measure AQ-1a and Mitigation Measure AQ-1b	60
Percent Reduction	4.7 percent
<i>BAAQMD Significance Thresholds</i>	54
<i>Impact</i>	Yes

Source: Illingworth and Rodkin, 2010.

Impact AQ-2: Development of the project area would conflict with implementation of the 2005 Bay Area Ozone Strategy, specifically in regards to population, vehicle miles traveled, and transportation control measures. (Significant)

Population and Vehicle Miles Traveled

A key element in air quality planning is to make reasonably accurate projections of future human activities, particularly vehicle activities that are related to air pollutant emissions. BAAQMD uses population projections made by the Association of Bay Area Governments (ABAG) and vehicle use trends made by the Metropolitan Transportation Commission to formulate future air pollutant emission inventories.

The *2005 Bay Area Ozone Strategy* was adopted by BAAQMD in 2006. This plan is based on population projections through 2020 compiled by ABAG. The project proposes a General Plan Amendment to change the land use designation of site 1 from Open Space-Urban Reserve to Low Density Residential. As a result, the project would result in a higher population density than was anticipated in the preparation of the *2005 Bay Area Ozone Strategy*. This greater population would result in increased vehicle usage and increased air pollutant emissions over what was anticipated for Open Space-Urban Reserve designation. However, the project would be consistent with the more recent and updated citywide population projections incorporated into the upcoming 2010 Clean Air Plan.

In March 2010, BAAQMD released the Draft Bay Area 2010 Clean Air Plan, as well as the accompanying Draft Programmatic Environment Impact Report. The Bay Area 2010 Clean Air Plan will:

- Update the current Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone;
- Provide a control strategy to reduce ozone, particulate matter (PM), TACs, and greenhouse gases in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission control measures to be adopted or implemented in the 2010-2012 timeframe.

The public comment period for the plan and associated EIR closed in late April 2010. On September 15, 2010, the BAAQMD Board of Directors will conduct a public hearing to consider and adopt the final proposed Bay Area 2010 Clean Air Plan, and to certify the Final Environmental Impact Report on the CAP. ~~BAAQMD has not adopted this plan as of June 18, 2010.~~

The increased emissions associated with increased population allowed by the proposed General Plan Amendment would incrementally exacerbate the nonattainment of ambient air quality standards, representing a significant impact.

Transportation Control Measures (TCMs)

The 2005 Bay Area Ozone Strategy includes 20 TCMs. TCMs that would apply to Fremont and this project would reduce motor vehicle travel by encouraging use of alternative transportation modes, including transit, bicycle, and pedestrian modes of transportation. The City implements the following two TCMs on a citywide basis:

- TCM 10: Incorporate youth transportation programs, such as CARB’s Lower Emission School Bus Program.
- TCM 12: Improve arterial traffic management.

Furthermore, the project addresses appropriate TCMs associated with improving pedestrian and bicycle access and facilities. The project would provide up to three bus stops around the perimeter of the project area. Tentative locations include one stop on the north side Paseo Padre Parkway (near Ardenwood Boulevard) and two bus stops, one on the southwest side and one on the northeast side of Ardenwood Boulevard near the project entrance.

Significance after Mitigation: Significant and Unavoidable

Although implementation of the TCMs described above would support the efforts of the BAAQMD to meet attainment standards for O₃, implementation of the project would result in a new land use density for the project area, which may contribute to emissions of O₃ precursors above what was projected and planned for in the 2005 Bay Area Ozone Strategy. This would further hinder efforts to meet federal and state standards for this air pollutant and could result in adverse impacts to human health. However, the 2010 Clean Air Plan would incorporate long-term projections which would account for the project's phased buildout for air quality planning thereby not hindering efforts to meet federal and state air quality standards for this pollutant. Because this plan has not yet been adopted, this evaluation is based on the 2005 Bay Area Ozone Strategy and so this impact would be significant and unavoidable.

Impact AQ-3: While the project would generate CO emissions, predicted roadside CO concentrations would not exceed or violate the BAAQMD ambient air quality standard. (Less than Significant)

CO emitted from project traffic would be the only localized air pollutant of concern associated with the project. Emissions of other air pollutants, such as particulate matter, are spread out over a large area so that they are not a concern locally. Congested intersections with a large volume of traffic have the greatest potential to cause high localized concentrations of CO. Measured CO levels have been at healthy levels (i.e., below state and federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. Highest measured 8-hour carbon monoxide levels over the last 3 years are 2.0 parts per million (ppm) in Fremont, which are well below ambient air quality standards of 9.0 ppm.

The contribution of project-generated traffic to these levels was predicted following the screening guidance recommended by the BAAQMD. A review of intersection traffic volumes and level of service was conducted to identify intersections with the potential for highest CO levels that would be affected by the project. Two intersections, the Decoto Road/Northbound Interstate 880 (I-880) Off-Ramp intersection and the Decoto Road/Fremont Boulevard intersection, were considered the worst intersections (in terms of elevated CO levels from traffic) that may be affected by project-generated traffic.

Predicted CO concentrations associated with the project are shown in **Table 4.3-6, Predicted Roadside Carbon Monoxide Concentrations**. Screening calculations are also provided as an attachment of the air quality report in **Appendix B**.

The highest 8-hour concentration with project implementation (2015) is predicted to be 4.8 ppm over an 8-hour averaging period. In 2030, localized CO levels would be even lower, assuming increased vehicle efficiency, along the Decoto Road/Northbound I-880 Off-Ramp intersection. The results of this screening analysis indicate that project levels would be below the California ambient air quality standard of 9.0 ppm; therefore, the impact would be considered less than significant.

Table 4.3-6 Predicted Roadside Carbon Monoxide Concentrations

Description	Existing (2008))	2015 Without Project	2015 With Project	2030 Without Project	2030 With Project
	Concentrations (ppm)				
Decoto Rd & NB 880 Off-Ramp & 880 Freeway	7.7	4.7	4.8	2.7	2.7
Decoto Rd. & Fremont Blvd.	5.4	2.6	2.6	1.3	1.4
BAAQMD Thresholds	9.0 ppm (CAAQS)				

Source: Illingworth and Rodkin, 2010.

Impact AQ-4: Emission of dust and diesel exhaust during construction of the project would expose sensitive receptors to substantial pollutant concentrations during the construction phase of the project. (Significant)

Project emissions of air pollutants would be highest during project construction. Project construction would result in temporary emissions of dust and diesel exhaust that could adversely affect nearby sensitive receptors. As the project is developed, new residences constructed as part of the project could be exposed to pollutants generated by construction activities.

Dust would be generated during project grading and construction activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed, amount of activity, soil conditions and meteorological conditions. Although grading and construction activities would be temporary, they would have the potential to cause both nuisance and health air quality impacts. PM₁₀ is the pollutant of greatest concern associated with dust. If uncontrolled, PM₁₀ levels downwind of actively disturbed areas could possibly exceed state standards.

In addition, dust fall on adjacent properties could be a nuisance to nearby receptors. Construction dust emissions can also contribute to regional PM₁₀ and PM_{2.5} emissions. If uncontrolled, dust generated by grading and construction activities represents a significant impact. BAAQMD guidelines recommend that fugitive dust emission impacts be addressed by applying appropriate mitigation measures.

Using the URBEMIS2007 model,⁹ annual project construction exhaust emissions were calculated, considering the type of construction activity and truck hauling activities (i.e., the trucks required to haul fill to the project site). Annual emissions were divided by the number of construction days to report daily construction emissions. Using a conservative estimate, the project was assumed to be constructed over a period of five years, with construction beginning as early as 2011. Temporary average daily emissions predicted for project construction are reported in **Table 4.3-7**. The URBEMIS2007 model output files are included as in **Appendix C**.

The URBEMIS2007 modeling for construction included the following assumptions in addition to the model default values:

- Both mass grading and fine grading phases would occur during the first year of construction;
- Mass grading would include the cut, transport and fill of over 412,000 cubic yards of material of which up to 300,000 cubic yards would be imported from offsite locations and would require hauling by truck, ~~with possibly 150,000 cubic yard imported from offsite locations (as described in Mitigation Measure AG-1b);~~¹⁰
- Architectural coatings (e.g., paints) would be applied over the last 3 years of construction; and
- The URBEMIS2007 output emissions for architectural coatings was adjusted to account for the VOC content in paints used for residential structures (flat, non-flat, and nonflat-high gloss coatings), as specified in Regulation 8, Rule 3– Architectural Coatings. URBEMIS2007 assumes a VOC content of 250 grams per liter, while BAAQMD Regulation 8, Rule 3 limits these paints to 50 to 150 grams per liter. A VOC content of 150 grams per liter was assumed in this assessment.

⁹ The URBEMIS2007 model, Version 9.2.4, is distributed by the Rimpo Associates (www.urbemis.com) and is recommended for us by the BAAQMD.

¹⁰ An average haul trip length of 10 miles was assumed in the URBEMIS2007 modeling to account for ~~both on-site and~~ off-site truck hauling distances.

Implementation of the BAAQMD recommended measures, as identified in **Mitigation Measure AQ-4a** and **AQ-4b**, would reduce project construction emission impacts.

Table 4.3-7 Average Daily Project Emissions in Pounds Per Day - Project Construction

Scenario	Modeled Daily Emissions in Pounds Per Day (lbs/day)			
	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO _x)	Respirable Particulates (PM ₁₀)	Fine Particulates (PM _{2.5})
Construction – Grading, Trenching, Paving	20	205	9	8
Project – Paving/Building/Coating	9	47	3	3
Project – Building/Coating	52	39	2	2
Project – Building/Coating	52	36	2	2
Project – Building/Coating	51	32	2	2

Source: Illingworth and Rodkin, 2010.

Additionally, construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. BAAQMD does not have procedures or guidelines for identifying these impacts from temporary construction activities where emissions are transient. Diesel exhaust poses both a health and nuisance impact to nearby receptors. For instance, the use of older or poorly maintained construction equipment may emit more diesel particulate matter than newer models, and the staging of construction equipment near residences could result in high concentrations of PM_{2.5}. As a result, these emissions are considered significant.¹¹

The BAAQMD has recommended that the following mitigation measures be incorporated into projects to reduce to a less-than-significant level¹² the air quality impacts of PM_{2.5} and diesel exhaust emissions associated with grading and new construction.

¹¹ NO_x emissions would be significant during the grading phase of construction. This assessment assumed as a credible worst-case scenario that all of these emissions would occur in one year.

¹² BAAQMD CEQA Guidelines, 1999.

Mitigation Measure AQ-4a: Incorporate Measures to Control Construction Dust Emissions During All Phases of Construction Activities.

The project proponent(s) shall implement the following measures for all phases of construction as recommended by BAAQMD to reduce the air quality impacts of particulate matter (PM₁₀ and PM_{2.5}) associated with grading and new construction:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Mitigation Measure AQ-4b: Incorporate Measures to Control Construction Diesel Exhaust Emissions.

The project proponent(s) shall implement the following measures recommended by BAAQMD to control diesel exhaust emissions associated with grading and new construction.

- The project shall provide a plan, for approval by Fremont, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the on site construction project, including owned, leased and subcontractor vehicles, shall achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the CARB fleet average projected for each construction year.

- Prohibit equipment with dirty emissions. The project shall ensure that emissions from all off-road diesel powered equipment used on the project area do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. This measure means that equipment with continuous dark emissions is in violation of the requirement.
- Reduce equipment and vehicle idle times. Enforce State idling requirements that require diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite.
- Reduce vehicle emissions. Properly tune and maintain equipment for low emissions.
- Separate equipment and trucks from residences. Avoid staging equipment within 200 feet of residences (including newly built and occupied residences).
- Contractor shall maintain maintenance records for all equipment used on site.
- Use low VOC (i.e., ROG) coatings that, on average, have a VOC content of 150 grams per liter or lower.

These measures would reduce emissions of NO_x during the grading phase to a maximum of 186 pounds per day. Over half of the NO_x emissions during this phase of construction would be associated with off-site truck hauling of soil material. These emissions would remain above the BAAQMD threshold of 54 pounds per day. As a result, the impact would be significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable

Mitigation measures reflecting best available control measures as identified by BAAQMD, would reduce construction period emissions so that impacts from fugitive dust would not be significant. Emissions of NO_x during the grading phase would be reduced to 186 pounds per day which would remain above the BAAQMD threshold of 54 pounds per day. Over half of the NO_x emissions during this phase of construction would be associated with off-site truck hauling of soil material. The impact would therefore be significant and unavoidable.

Impact AQ-5: The proposed residential and institutional uses would not create objectionable odors affecting a substantial number of people. (Less than Significant)

The project would include residential and institutional uses, which are not land uses associated with creating objectionable odors. Facilities such as wastewater treatment plants, sanitary landfills, petroleum refineries, and chemical manufacturing plants are the typical types of land uses that emit objectionable odors. The offensiveness and degree of odor ultimately depends on the sensitivity of the receptors exposed to the odor. The only potential source of odor associated with the project would be the garbage or waste associated with land uses proposed onsite. Any garbage or waste generated by the residential and institutional uses would be collected and disposed of according to Fremont policies found in the City of Fremont Municipal Code Chapter 2: Solid Waste, Recyclables, and Yard Waste Management. Proper collection and disposal of generated waste would avoid the creation of objectionable odors affecting residents of the proposed project or surrounding neighborhoods.

Odors could potentially be generated during short-term architectural coating activities. Architectural coatings contain VOCs that may include odiferous compounds. However, any architectural coatings used for the project must comply with the low-VOC requirements of BAAQMD Regulation 8, Rule 3 (Architectural Coatings). This rule limits the quantity of VOCs contained in architectural coatings sold, used, or manufactured within the BAAQMD. Compliance with Regulation 8, Rule 3, would minimize any odor impacts from architectural coating operations. Additionally, any odors associated with architectural coatings would cease following completion of the proposed project, except for minor periodic maintenance painting. Therefore, the project's impact with respect to odors would be considered less than significant.

The land uses surrounding the project area include residential units and recreational open space. These uses are not anticipated to constitute a significant odor source. Therefore, residents of the project would not be exposed to objectionable odors from adjacent land uses and the impact with respect to this criterion would be less than significant.

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